

What is claimed is:

1. A display device comprising:
 - a source signal line driving circuit;
 - a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;
 - a shift register included in said source signal line driving circuit for serially outputting pulses in accordance with clock signals;
 - a level shifter included in said source signal line driving circuit for converting a voltage amplitude of input signals; and
 - a current source provided for said source signal line driving circuit for supplying a current to said level shifter,
wherein said current source supplies the current only when said shift register serially outputs the pulses.
2. A device according to claim 1, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.
3. A device according to claim 1, wherein said driving

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circuit and said pixel portion are provided over a same substrate.

4. A device according to claim 1, wherein said driving circuit and said pixel portion are provided over different substrates.

5. A device according to claim 1 wherein said display device is a liquid crystal display device.

6. A device according to claim 1 wherein said display device is incorporated into a personal computer.

7. A device according to claim 1 wherein said display device is incorporated into a portable information terminal.

8. A device according to claim 1 wherein said display device is incorporated into a car audio set.

9. A device according to claim 1 wherein said display device is incorporated into a digital camera.

10. A display device comprising:
a source signal line driving circuit;
a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;

first to xth (x: natural number, x ≥ 2) units included in said source signal line driving circuit;

a shift register included in the ath (a: natural number, 1 ≤ a ≤ x) unit for serially outputting pulses in accordance with clock signals;

a plurality of level shifters included in said ath unit for converting a voltage amplitude of input signals; and

an ath current source provided for said ath unit for supplying a current to said plurality of level shifters,

wherein said ath current source supplies the current to said plurality of level shifters only when said shift register in said ath unit serially outputs the pulses.

11. A device according to claim 10, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

12. A device according to claim 10, wherein said driving circuit and said pixel portion are provided over a same substrate.

13. A device according to claim 10, wherein said driving circuit and said pixel portion are provided over different

substrates.

14. A device according to claim 10 wherein said display device is a liquid crystal display device.

15. A device according to claim 10 wherein said display device is incorporated into a personal computer.

16. A device according to claim 10 wherein said display device is incorporated into a portable information terminal.

17. A device according to claim 10 wherein said display device is incorporated into a car audio set.

18. A device according to claim 10 wherein said display device is incorporated into a digital camera.

19. A display device comprising:

a source signal line driving circuit;

a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;

first to x^{th} (x : natural number, $x \geq 2$) units included in said source signal line driving circuit;

a shift register included in the b^{th} (b : natural number, $1 < b \leq x$) unit for serially outputting pulses in accordance

with clock signals,

a plurality of level shifters included in said bth unit for converting a voltage amplitude of input signals; and

a bth current source provided for said bth unit for supplying a current to said plurality of level shifters,

wherein said bth current source supplies the current to said plurality of level shifters only during a part of the period in which said shift register in the b-1th unit serially outputs the pulses and only when said shift register in said bth unit serially outputs the pulses.

20. A device according to claim 19, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

21. A device according to claim 19, wherein said driving circuit and said pixel portion are provided over a same substrate.

22. A device according to claim 19, wherein said driving circuit and said pixel portion are provided over different substrates.

23. A device according to claim 19 wherein said display device is a liquid crystal display device.

24. A device according to claim 19 wherein said display device is incorporated into a personal computer.

25. A device according to claim 19 wherein said display device is incorporated into a portable information terminal.

26. A device according to claim 19 wherein said display device is incorporated into a car audio set.

27. A device according to claim 19 wherein said display device is incorporated into a digital camera.

28. A display device comprising:

a source signal line driving circuit;

a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;

first to xth (x: natural number, $x \geq 2$) units included in said source signal line driving circuit;

a shift register included in the cth (c: natural number, $1 \leq c \leq x$) unit for serially outputting pulses in accordance with clock signals,

a plurality of level shifters included in said cth unit

for converting a voltage amplitude of input signals; and
a cth current source provided for said cth unit for
supplying a current to said plurality of level shifters,
wherein said cth current source supplies the current to
said plurality of level shifters only during a part of the period
in which said shift register in the c+1th unit serially outputs
the pulses and only when said shift register in said cth unit
serially outputs the pulses.

29. A device according to claim 28, wherein said source signal
line driving circuit and said pixel portion are provided over
a member selected from the group consisting of a glass substrate,
a plastic substrate, a stainless steel substrate and a single
crystal wafer.

30. A device according to claim 28, wherein said driving
circuit and said pixel portion are provided over a same
substrate.

31. A device according to claim 28, wherein said driving
circuit and said pixel portion are provided over different
substrates.

32. A device according to claim 28 wherein said display device
is a liquid crystal display device.

33. A device according to claim 28 wherein said display device is incorporated into a personal computer.

34. A device according to claim 28 wherein said display device is incorporated into a portable information terminal.

35. A device according to claim 28 wherein said display device is incorporated into a car audio set.

36. A device according to claim 28 wherein said display device is incorporated into a digital camera.

37. A display device comprising:

- a gate signal line driving circuit;
- a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;
- a shift register included in said gate signal line driving circuit for serially outputting pulses in accordance with clock signals;
- a level shifter included in said gate signal line driving circuit for converting a voltage amplitude of input signals; and
- a current source provided for said gate signal line driving circuit for supplying a current to said level shifter,

wherein said current source supplies the current only when said shift register serially outputs the pulses.

38. A device according to claim 37 wherein said gate signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

39. A device according to claim 37, wherein said driving circuit and said pixel portion are provided over a same substrate.

40. A device according to claim 37, wherein said driving circuit and said pixel portion are provided over different substrates.

41. A device according to claim 37 wherein said display device is a liquid crystal display device.

42. A device according to claim 37 wherein said display device is incorporated into a personal computer.

43. A device according to claim 37 wherein said display device is incorporated into a portable information terminal.

44. A device according to claim 37 wherein said display device is incorporated into a car audio set.

45. A device according to claim 37 wherein said display device is incorporated into a digital camera.

46. A display device comprising:

a gate signal line driving circuit;
a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;

first to y th (y : natural number, $y \geq 2$) units included in said gate signal line driving circuit;

a shift register included in the d th (d : natural number, $1 \leq d \leq y$) unit for serially outputting pulses in accordance with clock signals;

a plurality of level shifters included in said d th unit for converting a voltage amplitude of input signals; and

a d th current source provided for said d th unit for supplying a current to said plurality of level shifters,

wherein said d th current source supplies the current to said plurality of level shifters in said d th unit only when said shift register in said d th unit serially outputs the pulses.

47. A device according to claim 46 wherein said gate signal

line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

48. A device according to claim 46, wherein said driving circuit and said pixel portion are provided over a same substrate.

49. A device according to claim 46, wherein said driving circuit and said pixel portion are provided over different substrates.

50. A device according to claim 46 wherein said display device is a liquid crystal display device.

51. A device according to claim 46 wherein said display device is incorporated into a personal computer.

52. A device according to claim 46 wherein said display device is incorporated into a portable information terminal.

53. A device according to claim 46 wherein said display device is incorporated into a car audio set.

54. A device according to claim 46 wherein said display device is incorporated into a digital camera.

55. A display device comprising:

 a gate signal line driving circuit;

 a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;

 first to y^{th} (y : natural number, $y \geq 2$) units included in said gate signal line driving circuit;

 a shift register included in the e^{th} (e : natural number, $1 < e \leq y$) unit for serially outputting pulses in accordance with clock signals;

 a plurality of level shifters included in said e^{th} unit for converting a voltage amplitude of input signals; and

 an e^{th} current source provided for said e^{th} unit for supplying a current to said plurality of level shifters,

 wherein said e^{th} current source supplies the current to said plurality of level shifters in said e^{th} unit during a part of the period in which said shift register in the $e-1^{\text{th}}$ unit serially outputs the pulses and only when said shift register in said e^{th} unit serially outputs the pulses.

56. A device according to claim 55 wherein said gate signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate,

a plastic substrate, a stainless steel substrate and a single crystal wafer.

57. A device according to claim 55, wherein said driving circuit and said pixel portion are provided over a same substrate.

58. A device according to claim 55, wherein said driving circuit and said pixel portion are provided over different substrates.

59. A device according to claim 55 wherein said display device is a liquid crystal display device.

60. A device according to claim 55 wherein said display device is incorporated into a personal computer.

61. A device according to claim 55 wherein said display device is incorporated into a portable information terminal.

62. A device according to claim 55 wherein said display device is incorporated into a car audio set.

63. A device according to claim 55 wherein said display device is incorporated into a digital camera.

64. A display device comprising:

 a gate signal line driving circuit;

 a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;

 first to y th (y : natural number, $y \geq 2$) units included in said gate signal line driving circuit;

 a shift register included in the f th (f : natural number, $1 \leq f < y$) unit for serially outputting pulses in accordance with clock signals;

 a plurality of level shifters included in said f th unit for converting a voltage amplitude of input signals; and

 an f th current source provided for said f th unit for supplying a current to said plurality of level shifters,

 wherein said f th current source supplies the current to said plurality of level shifters in said f th unit during a part of the period in which said shift register in the $f+1$ th unit serially outputs the pulses and only when said shift register in said f th unit serially outputs the pulses.

65. A device according to claim 64 wherein said gate signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

66. A device according to claim 64, wherein said driving circuit and said pixel portion are provided over a same substrate.

67. A device according to claim 64, wherein said driving circuit and said pixel portion are provided over different substrates.

68. A device according to claim 64 wherein said display device is a liquid crystal display device.

69. A device according to claim 64 wherein said display device is incorporated into a personal computer.

70. A device according to claim 64 wherein said display device is incorporated into a portable information terminal.

71. A device according to claim 64 wherein said display device is incorporated into a car audio set.

72. A device according to claim 64 wherein said display device is incorporated into a digital camera.

73. A display device comprising:

a source signal line driving circuit;
a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;
a decoder included in said source signal line driving circuit for outputting pulses in accordance with input signals;
a level shifter included in said source signal line driving circuit for converting a voltage amplitude of the input signals; and
a current source provided for said source signal line driving circuit for supplying a current to said level shifter,
wherein said current source supplies the current only when said decoder outputs the pulses.

74. A device according to claim 73, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

75. A device according to claim 73, wherein said driving circuit and said pixel portion are provided over a same substrate.

76. A device according to claim 73, wherein said driving circuit and said pixel portion are provided over different

substrates.

77. A device according to claim 73 wherein said display device is a liquid crystal display device.

78. A device according to claim 73 wherein said display device is incorporated into a personal computer.

79. A device according to claim 73 wherein said display device is incorporated into a portable information terminal.

80. A device according to claim 73 wherein said display device is incorporated into a car audio set.

81. A device according to claim 73 wherein said display device is incorporated into a digital camera.

82. A display device comprising:

 a source signal line driving circuit;

 a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;

 first to xth (x: natural number, $x \geq 2$) units included in said source signal line driving circuit;

 a decoder included in the ath (a: natural number, $1 \leq a \leq x$) unit for outputting pulses in accordance with input

signals;

 a plurality of level shifters included in said ath unit for converting a voltage amplitude of the input signals; and

 an ath current source provided for said ath unit for supplying a current to said plurality of level shifters,

 wherein said ath current source supplies the current to said plurality of level shifters only when said decoder in said ath unit outputs the pulses.

83. A device according to claim 82, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

84. A device according to claim 82, wherein said driving circuit and said pixel portion are provided over a same substrate.

85. A device according to claim 82, wherein said driving circuit and said pixel portion are provided over different substrates.

86. A device according to claim 82 wherein said display device is a liquid crystal display device.

87. A device according to claim 82 wherein said display device is incorporated into a personal computer.

88. A device according to claim 82 wherein said display device is incorporated into a portable information terminal.

89. A device according to claim 82 wherein said display device is incorporated into a car audio set.

90. A device according to claim 82 wherein said display device is incorporated into a digital camera.

91. A display device comprising:
a source signal line driving circuit;
a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;
first to xth (x: natural number, x ≥ 2) units included in said source signal line driving circuit;
a decoder included in the bth (b: natural number, 1 < b ≤ x) unit for outputting pulses in accordance with input signals;
a plurality of level shifters included in said bth unit for converting a voltage amplitude of the input signals; and
a bth current source provided for said bth unit for

supplying a current to said plurality of level shifters,

wherein said bth current source supplies the current to said plurality of level shifters in the bth unit only during a part of the period in which said decoder in the b-1th unit outputs the pulses and only when said decoder in said bth unit serially outputs the pulses.

92. A device according to claim 91, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

93. A device according to claim 91, wherein said driving circuit and said pixel portion are provided over a same substrate.

94. A device according to claim 82, wherein said driving circuit and said pixel portion are provided over different substrates.

95. A device according to claim 82 wherein said display device is a liquid crystal display device.

96. A device according to claim 82 wherein said display device

is incorporated into a personal computer.

97. A device according to claim 82 wherein said display device is incorporated into a portable information terminal.

98. A device according to claim 82 wherein said display device is incorporated into a car audio set.

99. A device according to claim 82 wherein said display device is incorporated into a digital camera.

100. A display device comprising:

 a source signal line driving circuit;
 a pixel portion, each of said source signal line driving circuit and said pixel portion provided over a substrate;

 first to x th (x : natural number, $x \geq 2$) units included in said source signal line driving circuit;

 a decoder included in the c th (c : natural number, $1 \leq c < x$) unit for outputting pulses in accordance with input signals,

 a plurality of level shifters included in said c th unit for converting a voltage amplitude of the input signals; and

 a c th current source provided for said c th unit for supplying a current to said plurality of level shifters,

 wherein said c th current source supplies the current to

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said plurality of level shifters in the cth unit only during a part of the period in which said decoder in the c+1th unit outputs the pulses and only when said decoder in said cth unit outputs the pulses.

101. A device according to claim 100, wherein said source signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

102. A device according to claim 100, wherein said driving circuit and said pixel portion are provided over a same substrate.

103. A device according to claim 100, wherein said driving circuit and said pixel portion are provided over different substrates.

104. A device according to claim 100 wherein said display device is a liquid crystal display device.

105. A device according to claim 100 wherein said display device is incorporated into a personal computer.

106. A device according to claim 100 wherein said display device is incorporated into a portable information terminal.

107. A device according to claim 100 wherein said display device is incorporated into a car audio set.

108. A device according to claim 100 wherein said display device is incorporated into a digital camera.

109. A display device comprising:

a gate signal line driving circuit;

a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;

a decoder included in said gate signal line driving circuit for outputting pulses in accordance with input signals;

a level shifter included in said gate signal line driving circuit for converting a voltage amplitude of the input signals; and

a current source provided for said gate signal line driving circuit for supplying a current to said level shifter,

wherein said current source supplies the current only when said decoder outputs the pulses.

110. A device according to claim 109 wherein said gate signal line driving circuit and said pixel portion are provided over

a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

111. A device according to claim 109, wherein said driving circuit and said pixel portion are provided over a same substrate.

112. A device according to claim 109, wherein said driving circuit and said pixel portion are provided over different substrates.

113. A device according to claim 109 wherein said display device is a liquid crystal display device.

114. A device according to claim 109 wherein said display device is incorporated into a personal computer.

115. A device according to claim 109 wherein said display device is incorporated into a portable information terminal.

116. A device according to claim 109 wherein said display device is incorporated into a car audio set.

117. A device according to claim 109 wherein said display

device is incorporated into a digital camera.

118. A display device comprising:

a gate signal line driving circuit;

a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;

first to y th (y : natural number, $y \geq 2$) units included in said gate signal line driving circuit;

a decoder included in the d th (d : natural number, $1 \leq d \leq y$) unit for outputting pulses in accordance with input signals;

a plurality of level shifters included in said d th unit for converting a voltage amplitude of the input signals: and

a d th current source provided for said d th unit for supplying a current to said plurality of level shifters,

wherein said d th current source supplies the current to said plurality of level shifters only when said decoder in said d th unit outputs the pulses.

119. A device according to claim 118 wherein said gate signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

120. A device according to claim 118, wherein said driving circuit and said pixel portion are provided over a same substrate.

121. A device according to claim 118, wherein said driving circuit and said pixel portion are provided over different substrates.

122. A device according to claim 118 wherein said display device is a liquid crystal display device.

123. A device according to claim 118 wherein said display device is incorporated into a personal computer.

124. A device according to claim 118 wherein said display device is incorporated into a portable information terminal.

125. A device according to claim 118 wherein said display device is incorporated into a car audio set.

126. A device according to claim 118 wherein said display device is incorporated into a digital camera.

127. A display device comprising:

a gate signal line driving circuit;
a pixel portion, each of said gate signal line driving circuit and said pixel portion provided over a substrate;
first to y th (y : natural number, $y \geq 2$) units included in said gate signal line driving circuit;

a decoder included in the e th (e : natural number, $1 < e \leq y$) unit for outputting pulses in accordance with input signals,

a plurality of level shifters included in said e th unit for converting a voltage amplitude of the input signals; and

an e th current source provided for said e th unit for supplying a current to said plurality of level shifters,

wherein said e th current source supplies the current to said plurality of level shifters only during a part of the period in which said decoder in the $e-1$ th unit outputs the pulses and only when said decoder in said e th unit outputs the pulses.

128. A device according to claim 127 wherein said gate signal line driving circuit and said pixel portion are provided over a member selected from the group consisting of a glass substrate, a plastic substrate, a stainless steel substrate and a single crystal wafer.

129. A device according to claim 127, wherein said driving circuit and said pixel portion are provided over a same

substrate.

130. A device according to claim 127, wherein said driving circuit and said pixel portion are provided over different substrates.

131. A device according to claim 127 wherein said display device is a liquid crystal display device.

132. A device according to claim 127 wherein said display device is incorporated into a personal computer.

133. A device according to claim 127 wherein said display device is incorporated into a portable information terminal.

134. A device according to claim 127 wherein said display device is incorporated into a car audio set.

135. A device according to claim 127 wherein said display device is incorporated into a digital camera.

136. A display device comprising:

a gate signal line driving circuit:

a pixel portion, each of said gate signal line driving

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circuit and said pixel portion provided over a substrate;
first to y th (y : natural number, $y \geq 2$) units included
in said gate signal line driving circuit;
a decoder included in the f th (f : natural number, $1 \leq f < y$) unit for outputting pulses in accordance with input
signals;
a plurality of level shifters included in said f th unit
for converting a voltage amplitude of the input signals; and
an f th current source provided for said f th unit for
supplying a current to said plurality of level shifters,
wherein said f th current source supplies the current to
said plurality of level shifters only during a part of the period
in which said decoder in the $f+1$ th unit outputs the pulses and
only when said decoder in said f th unit outputs the pulses.

137. A device according to claim 136 wherein said gate signal
line driving circuit and said pixel portion are provided over
a member selected from the group consisting of a glass substrate,
a plastic substrate, a stainless steel substrate and a single
crystal wafer.

138. A device according to claim 136, wherein said driving
circuit and said pixel portion are provided over a same
substrate.

139. A device according to claim 136, wherein said driving circuit and said pixel portion are provided over different substrates.

140. A device according to claim 136 wherein said display device is a liquid crystal display device.

141. A device according to claim 136 wherein said display device is incorporated into a personal computer.

142. A device according to claim 136 wherein said display device is incorporated into a portable information terminal.

143. A device according to claim 136 wherein said display device is incorporated into a car audio set.

144. A device according to claim 136 wherein said display device is incorporated into a digital camera.